

Translation

PATENT COOPERATION TREATY

PCT/EP2003/008650



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P26942/WO/Kf/est	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008650	International filing date (day/month/year) 05 August 2003 (05.08.2003)	Priority date (day/month/year) 05 August 2002 (05.08.2002)
International Patent Classification (IPC) or national classification and IPC F16C 33/10, 33/02, F04B 1/20, B05D 5/08		
Applicant BRUENINGHAUS HYDROMATIK GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 04 March 2004 (04.03.2004)	Date of completion of this report 26 October 2004 (26.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008650

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-13 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_ 1-18 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
pages \_\_\_\_\_ 1/5-5/5 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/08650

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-17	YES
	Claims	18	NO
Inventive step (IS)	Claims	1-17	YES
	Claims	18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

### 2. Citations and explanations

D1: DE-A-1 96 01 721

D2: DE-A-43 01 123 (attached)

1. According to the description, the sliding block blank and the beam mediating the application of heat are displaced relatively to each other in each case (a relative movement results from displacement of the sliding block blank while the beam remains stationary, displacement of the beam while the sliding block blank remains stationary or unequal displacement of both objects). Therefore, the wording in claim 1 ("by displacing the sliding block blank (47) and/or a beam (35) mediating the application of heat (34) relatively to each other") is unclear (PCT Article 6). Said wording will be interpreted to mean "by displacing the sliding block blank (47) and/or a beam (35) mediating the application of heat (34) the sliding block blank (47) and/or a beam (35) mediating the application of heat (34) are displaced relatively to each other").

2. Claim 1 pertains to a process for forming partitions on the slide surface of a sliding block blank.

Sliding blocks are used in, for example, axial piston devices, in which the pistons are supported via sliding blocks on an appropriately formed slide surface and the lifting movement of the pistons is generated by relative displacement of the sliding block and the slide surface. It is known that a sliding block body (sliding block blank) that cooperates with a piston should be fabricated from a material with high mechanical strength and that the contact surface of such bodies should be configured with the slide surface as a slide sole with projections and recesses (partitions) for the purpose of receiving lubricant, at least said projections consisting of friction-reducing material. The friction-reducing material is, for example, fixed in the grooves of the sliding block body with positive engagement (cf. D1) or is applied as a layer enveloping the body (cf. D2). According to the application, the projections of the slide sole are produced by local fusion of friction-reducing material applied initially as, for example, a layer of loose powder. This represents a simplification in relation both to the material required (no groove-shaped supporting material in the body, less friction-reducing material) and to fabrication (reduced machining time) while, according to the applicant, achieving identical stability.

The process according to the application is neither known from the prior art nor deducible therefrom.

Claim 1 meets the requirements of PCT Article 33(2) and (3).

3. Device claim 18 and the concept of "fusion" used therein (which does not necessarily yield an integral connection) do not exclude sliding blocks in which the sliding block body has grooves in which the melted material is ultimately fixed in a positively engaging manner only. This follows from the description (cf., e.g., page 2, paragraph 4), which states explicitly that, in "the process according to the invention", fixing the material by a contactless process fixedly and durably as a soldered or welded joint on the sliding block blank is considered only to be "advantageous" (in this paragraph "advantageous" may refer to "fixed connection" since the "contactless process" is defined in claim 1 as well as in claim 18).

Therefore, the features defining a fabrication process in the characterizing part of device claim 18 do not contribute any clear structural features that would distinguish the claimed sliding block from, for example, the sliding block described in D[?].

The present claim 18 does not meet the requirements of PCT Article 33(2).

4. Claims 2-17, which are dependent on claim 1, likewise meet the requirements of PCT Article 33(2) and (3).